



January 19, 1999

Ms. Margaret Sheppard  
Acid Rain Division  
U.S. EPA  
401 M St SW  
Washington, DC 20460

Dear Margaret:

The following notes summarize our thoughts on some of the issues raised in the workgroup on output-based allocation. As you know, the Coalition has long been a supporter of this type of regulation. We expect that you will get lots of response on the purely mechanical data collection issues and we have restricted our response to some of the more abstract but important issues. We look forward to continuing this dialogue.

1. Sources of Information  
Electric Generation

*How can EPA allocate based on generation measured at the plant level or the generator or turbine level, when EPA allowance tracking system tracks at the unit (boiler or turbine) level and EPA's emission tracking system tracks emissions and heat input at the unit and stack levels?*

Allocation is not linked to compliance tracking or enforcement. The compliance tracking system measures the emissions at each unit and the operators need to have enough allowances from some source to cover their emissions either at the unit or plant level. However, there is no actual or required linkage between the two. As long as the operator can show adequate allowances to cover the measured emissions, it doesn't matter where they came from. For example, plant owners use purchased allowances for compliance, even though they are not allocated to that unit. In the OTR, allowances were allocated differently in each state, in some cases not clearly based on unit or plant characteristics, and there is no problem expected with tracking or compliance. There is no issue here.

Mechanical output

*Is mechanical output going to be a form of output by either industrial or electrical generating units?*

By definition, EGU's should be generating electricity rather than mechanical drive. In the context of the SIP call trading program, we would only be interested in non-electric mechanical drives with heat input greater than 250 MMBtu/hr. The only mechanical drive sources currently known

to be in the non-EGU inventory and the only ones likely to be included in the trading program are pipeline compressor drives. There are fewer than five such sources in the inventory and some of those may not really be larger than 250 MMBtu/hr. Smaller mechanical drive sources are unlikely to opt in to the program due to the high costs of monitoring. If there are five or less such sources in the system, I don't think it is worth developing measurement protocols and systems. It would be more appropriate to calculate output for these units based on measured heat input data and design or measured efficiency data.

*If mechanical output is used, how is mechanical output measured? What are the units of measurement?*

The appropriate unit is probably horsepower-hour. This can be measured but it is probably not needed for the reasons discussed above.

### 3. Comparing converting heat input, steam input and electric output

*Should steam output be converted to electrical output? If so, which method should be used to convert steam energy to electrical power equivalent? If steam energy were not converted, how would emissions limitations be treated for cogenerators?*

Converting thermal output to electric output requires a variety of technical and value judgements. Steam and thermal energy can be converted to electricity in a variety of ways with different efficiencies. Electricity has a higher monetary value than thermal energy in most cases but is usually less efficient and in many applications less useful. Attempting to equate the two in a generic way raises valuation questions that cannot be simply or clearly resolved.

Moreover, it is not necessary to convert thermal output to electric output. Cogenerators should receive the same allocation as separate conventional facilities providing the same electricity and thermal service. Under an output-based allocation system, each power generation unit receives allowances from the EGU allowance pool proportional to its electric output. If a generator produces 5 percent of the generation in a state, it receives 5 percent of the EGU allowances. Each non-electric generator receives allowances from the non-EGU pool proportional to its thermal output. A cogeneration facility would receive allowances from each pool proportional to its generation of each. No conversion is needed or appropriate.

It has been suggested that a conversion is required to adjust the EGU and non-EGU pools for the "transfers" that would take place when a cogeneration facility draws some allowances from the non-EGU pool even though its baseline was counted completely in the EGU pool. We believe that this is an unnecessary refinement. The development of the pools and the allocation to sources inherently involves reallocation of allowances from historical sources and levels. This is just another form of that reallocation. Moreover, the pool levels are not exact numbers. The process involves a large number of assumptions and estimates that might have resulted in different pool values if they had been done differently. In addition, there are sources that are not included in the

Letter to: Margaret Sheppard  
January 19, 1999  
Page 3

inventory that must receive allocations and this will change the allowances available to the remaining units. There is more variation in the numbers due to these assumptions and omissions than will be caused by the proposed treatment of cogeneration facilities. The "correction" is not useful or necessary and neither is the conversion.

*What assumptions should be made about the efficiency of conversion from steam output to electrical output?*

See above.

*If output data were not available directly, what would be appropriate assumptions to make about the efficiency of conversion from heat input to output?*

Data on heat rates of power generators are available from EIA sources (Form 767 and 860). Data on boiler and engine efficiencies are more difficult to come by but may be available from manufacturers and will be developed as the monitoring of output begins under the EPA data collection program.

4. How do states receive output data for setting future allocations?

*If allocations were to be based upon electrical generation only, can a state use EIA form 759 for whichever ozone seasons a state selects?*

*If allocations were to be based upon steam, mechanical and electrical generation, how will a state and/or EPA obtain steam or mechanical output data directly from sources?*

*If a State decides to regulate process sources under its SIP, how will the State determine whether it is easier to find or measure input or output data?*

I have questions about what is being asked in each of these three questions. I will try to reach you this week to talk them over with you. Please call me if you have any questions or comments on our comments.

Sincerely,

Joel Bluestein, P.E.  
Director